

# Sustainability Education at UBC: A Student Perspective

REPORT FOR

UBCv WORKING GROUP ON ACADEMIC PROGRAMS OF THE PRESIDENT'S ADVISORY  
COUNCIL ON SUSTAINABILITY

and the

CAMPUS SUSTAINABILITY OFFICE

UNIVERSITY OF BRITISH COLUMBIA

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## Executive Summary

This report summarizes UBC student responses to an online survey conducted over a 3-week period during February and March, 2009, to determine priority student interests in sustainability education. This study, along with two companion reports on literature trends and employer, industry and thought leader perspectives, will inform UBC's efforts to develop an academic sustainability plan and identify potential course and degree options at UBCv on sustainability.

Electronic surveys were distributed to roughly 27,000 UBC undergraduate students to gauge perspectives on:

- the extent to which sustainability should be included within their degree;
- the priority sustainability subject areas students want to learn more about;
- student interest in courses and / or degrees in sustainability; and
- the perceived benefit of interdisciplinary classes.

Fully completed surveys (n=635) were analyzed according to student type (level of study), home Faculty, gender and international versus domestic student status.

Top findings include the following:

- The majority of students believe that sustainability should be a component of their degree.
- "Clean/Renewable Energy and Energy Efficiency" ranks as the subject of greatest interest (Grad students slightly less interested; Applied Science most interested of Faculties).
- Sustainable Transportation and Sustainable Community Development rank next highest as subjects of greatest interest, regardless of student type, Faculty, gender and international versus domestic with some notable exceptions (e.g., Green Building and Design is of high general interest) and Grad students are not as interested in Sustainable Transportation).
- For the most part students prefer to take specific *courses* in sustainability rather than pursue *degree options* in sustainability.
- There is a near universal agreement that there is a medium to large added benefit in taking integrated classes with students from other departments, programs or Faculties.

## Background

UBC has established a Working Group on Academic Programs (WGAP) of the President's Advisory Council on Sustainability to develop an academic sustainability plan and identify potential course and degree options at UBCv on sustainability. To this end, they and the Sustainability Office have engaged Strandberg Consulting to conduct a literature review of key trends in the Canadian and international sustainability labour market and employer, industry and thought leader interviews on emergent sustainability labour market trends. They have also commissioned a student survey to determine priority student sustainability education interests which is the subject of this report.

Together, the three research components will be compiled into a Sustainability Labour Market Research Report, which will be used to inform the Working Group's discussion and priority-setting on new courses and programs on sustainability at the undergraduate and graduate level.

The following is a summary of the survey results from the Student Survey, conducted in February and early March, 2009.

## Methodology

- An electronic survey was designed for UBC undergraduate and graduate students to gauge their interest in sustainability in the curriculum (the online survey was built with the survey tool Survey Monkey).
- The survey questions were formulated by a subgroup of the WGAP<sup>1</sup>.
- Survey drafts were circulated numerous times among the WGAP subgroup, and final drafts were tested with representatives of UBC staff, faculty and students prior to launch.
- The survey was sent to approximately 27,000 undergraduate students via emails sent by Faculties (**Appendix 1**). The survey was also advertized via three newsletters (International House, New to UBC and FYI), and five student sustainability leaders who distributed the survey via email to their networks.
- The survey went live on February 11, 2009 and closed on March 4<sup>th</sup>, 2009.
- **Appendix 2** lists the Survey's 18 questions. The first ten questions gather demographic data about the student respondents (e.g. age, gender, home Faculty, major etc.). The next five questions ask students about sustainability in the curriculum, both generally and specifically (questions #11-15 inclusive, see Appendix 2); in this report, we refer to these as **sustainability questions #1-5**. The final three survey questions #16-18 (see Appendix 1) asked students specifically about courses, and are not analyzed here as they do not directly relate to sustainability.

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<sup>1</sup> Jean Marcus, Peter Dauvergne, Gunilla Öberg, Kathy Harrison, Nicholas Coops and Peter Nemetz

## Results

The survey was started by 703 respondents, and fully completed by 635 (90.3% completion rate). **Results are based on the completed surveys only (n=635)**, and here we report on the sustainability questions only. Survey respondent demographic data are provided in **Appendix 3**.

For each of the 5 sustainability questions we report the: 1) results of all respondents combined (n=635), 2) results by Student Type, and 3) results by Faculty. For Student Type comparisons, we examined three groups: 1<sup>st</sup> and 2<sup>nd</sup> year students combined (n=215), 3<sup>rd</sup> and 4<sup>th</sup> year students combined (n=271), and graduate students (n=73). For Faculty comparisons, we examined the Faculties of Arts (n=94), Science (n=87), Applied Science (n=58), Forestry (n=68), Land and Food Systems (n=86), Education (n=98) and Commerce (n=115).

For each sustainability question, we also report if the ranking of the top answer differed between 1) males (n=214) and females (n=421) and 2) between international (n=79) and domestic (n=556) students. We do not analyze sustainability responses by Age, Where Lived for Most of Life, by Major or Program of Study, or by Career Path. These additional data are available upon request.

Throughout the Results section, the exact wording of each survey question is given in the first Table per subsection (each sustainability question is a subsection). The survey question is highlighted in yellow and the top responses are **bolded**.

### Sustainability Question#1: Sustainability Coverage Within Degree

#### All Respondents

The vast majority of respondents (93.7%) believe that sustainability should be a component of their degree, ranging from “a little” to “all” (**Table 1.1**). The most common response was “some”, answered by 26.5% of respondents. Nearly 50% (48.8%) of respondents, however, indicate that “half” to “all” of their degree should cover aspects of sustainability. Most had an opinion on this matter, with only 2.6% indicating “not sure”.

#### Comparison by Student Type

Responses were very similar among the 3 student type groups: “some” was the most frequent answer, with roughly one quarter of students per group agreeing with this percentage (**Table 1.2**). As students progress through their academic career, there is an increasing proportion who believe that all (100%) of their degree should cover aspects of sustainability, from 6.1% in 1<sup>st</sup> and 2<sup>nd</sup> year, to 10.7% in 3<sup>rd</sup> and 4<sup>th</sup> year to 19.2% of Graduate level students.

#### Comparison by Faculty

Results were similar for Arts, Science, Applied Science, Education, and Commerce, with the majority of respondents replying that sustainability should cover “a little” to “some” of their degree (**Table 1.3**; “a little” plus “some” combined ranges from 45% for Applied Science to 62%

for Commerce). In contrast, the majority of Forestry and Land and Food Systems respondents feel that 75% or more of their degree should cover aspects of sustainability (“a considerable amount”, “almost all” and “all combined”: 71% for Forestry, 56% for LFS). LFS has the largest proportion of respondents who replied that all of their degree should cover aspects of sustainability (23.0%) while Applied Science has the largest proportion of respondents who answered that there should be no coverage of sustainability in their degree (6.9%).

There were no obvious differences with gender and international versus domestic students for this question.

## **Sustainability Question #2: Level of Interest in Learning More about Key Sustainability Areas**

### **All Respondents**

Students had definite opinions on their level of interest in the 26 key sustainability areas, with “no opinion” or “don’t know” responses ranging from 0.8% to 6.9% (**Table 2.1**). Over 50% of respondents were “very interested” in 3 of the 26 areas: 1) Clean/Renewable Energy and Energy Efficiency (55.7%), 2) Sustainable Transportation (52.3%), and 3) Sustainable Community Development (50.2%).

Student respondents were least interested (“not at all” and “not very” combined) in: Spirituality, Links to Science and Sustainability (33.2%), Bioeconomy, Biomaterials and Biorefining (29.4%), and Environmental Law (23.3%). All the other sustainability areas had higher levels of interest from “somewhat” to “very interested”, with levels of disinterest (“not at all” plus “not very”) under 20%.

Combining results for those who answered “interested” and “very interested” (**Table 2.2**), the top 7 subject areas (>75%) include:

- Sustainable Transportation (82.0%)
- Clean/Renewable Energy and Energy Efficiency (81.7%)
- Sustainable Community Development (80.2%)
- Water and Air Quality (79.2%)
- Sustainable Infrastructure (water, waste, energy) (78.3%)
- Sustainable Cities (78.0%)
- Climate Change (76.1%)

Five of these top 7 priority subject areas touch on energy, air quality and climate change in some fashion. The other two priority areas are Sustainable Community Development and Sustainable Cities, suggesting a secondary interest in urban and local development, and the interface between humans and the environment. International interests rank in the middle of the pack, with Environment and International Development (72.6%), Global Governance and Sustainability (66.3%), Globalization and International Trade (64.3%) and Poverty Alleviation

and Development (64.3%) ranking from nearly two-thirds of respondents to nearly three-quarters (Table 2.2).

Subject areas with “sustainability” in the title tended to have more favourable mentions (e.g. Sustainable Transportation, Sustainable Community Development, Sustainable Infrastructure, Sustainable Cities, Business, Sustainability and Corporate Responsibility), in contrast with subject areas with “environment” in the title (e.g. Environmental Economics, Environmental Policy, Environmental Security, Environmental Justice, Environmental Law), possibly suggesting a bias to a more integrated interest (i.e. triple bottom line), rather than just an environmental focus.

### **Comparison by Student Type**

First and 2<sup>nd</sup> year students and 3<sup>rd</sup> and 4<sup>th</sup> year students report fairly similar results with respect to their interest in sustainability areas (**Table 2.3**). Third and 4<sup>th</sup> year students are more interested in Environmental Economics and Global Governance and Sustainability, but otherwise both undergraduate groups were “very interested” in 16 of the 26 subject areas (Table 2.3).

These trends differ in modest ways at the Graduate level. Graduate students are not as interested in Business, Sustainability and Corporate Responsibility and Globalization and International Trade. They are more interested in Environmental Justice, and both Land- and Marine-based Natural Resources Management. They also show considerably more interest than undergraduate students in Spirituality, Links to Science and Sustainability (32.88%) at almost double the levels of both 1<sup>st</sup> and 2<sup>nd</sup> year (15.89%) and 3<sup>rd</sup> and 4<sup>th</sup> year students (19.9%) (Table 2.3).

If 50% is used as the threshold of high interest, both 1<sup>st</sup> and 2<sup>nd</sup> year and 3<sup>rd</sup> and 4<sup>th</sup> year students prioritize Clean/Renewable Energy and Energy Efficiency and Sustainable Transportation. Graduate students had more and different areas of high interest, including Climate Change, Conservation, Biodiversity and Ecosystem Services, Food Security, Human Nutrition, Health and Environment, Sustainable Community Development, and Sustainable Infrastructure (water, waste, energy).

### **Comparison by Faculty**

Student interest in learning more about the 26 subject areas varied by Faculty (**Table 2.4**), with some subjects appealing to students across all Faculties (e.g. Clean/Renewable Energy and Energy Efficiency), and other subjects only appealing to students from specific Faculties (e.g. Environmental Policy). The number of subject areas that students showed a strong interest in learning more about (blue highlights in Table 2.4) also varied by Faculty, from 1 subject area for Commerce students to 9 subject areas for Education students.

The following lists detail the subject areas that have the broadest appeal across Faculties. In parentheses, the average % of “very interested” responses across Faculties is given, followed by the standard deviation.

Three subject areas rank first across all 7 Faculties:

- Clean/Renewable Energy and Energy Efficiency (56.8% ; 0.09)
- Sustainable Transportation (53.2%; 0.07)
- Green Building and Design (44.3%; 0.11)

A further three subject areas rank first across 6 Faculties:

- Sustainable Community Development (50.1%; 0.11)
- Sustainable Cities (46.0%; 0.07)
- Water and Air Quality (44.3%; 0.06)

An additional seven subject areas rank first across 5 Faculties:

- Sustainable Infrastructure (water, waste, energy) (48.1%; 0.11)
- Climate Change (46.8%; 0.11)
- Environment and International Development (44.3%; 0.08)
- Conservation, Biodiversity and Ecosystem Services (43.9%; 0.16)
- Human Nutrition, Health and Environment (43.3%; 0.21)
- Food Security (42.1%; 0.14)
- Ecotoxicology, Pollution and Environmental Health (37.1%; 0.13)

Altogether, 13 of 26 subject areas are ranked first (“very interested”) across the Faculties, with 13 ranked as “interested” or less.

Some subject areas show higher overall interest despite ranking lower in the cross-Faculty analysis. For example, Green Building and Design outranks Sustainable Community Development and Sustainable Cities for appeal across Faculties, but its average % of “very interested” responses is lower (44.3% for Green Building and Design versus 50.1% for Sustainable Community Development and 46.0% for Sustainable Cities).

Areas of high interest to specific Faculties include Business, Sustainability and Corporate Responsibility for Commerce (66.1%), Green Building and Design for Applied Science (65.2%), Food Security for Land and Food Systems (63.9%), and Poverty Alleviation and Development for Arts (52.1%).

### **Comparison by Gender**

Female respondents showed greater interest than male respondents in the following sustainability subject areas (**Table 2.5**):

- Ecotoxicology, Pollution and Environmental Health
- Environmental Justice
- Food Security
- Human Nutrition, Health and Environment
- Marine-based Natural Resources Management
- Poverty Alleviation and Development

- Spirituality, Links to Science and Sustainability

Five of the seven areas showing greater female interest have a “social” dimension to them (health, food and nutrition, poverty and spirituality). There are no social sustainability areas where male responses outranked female responses.

Male respondents showed greater interest than female respondents in Globalization and International Trade.

### **Comparison by International vs. Domestic**

The following 9 sustainability subject areas recorded differences in international versus domestic student responses (**Table 2.6**).

International students were more interested than domestic students in:

- Environmental Economics
- Environmental Justice
- Global Governance and Sustainability
- Globalization and International Trade
- Spirituality, Links to Science and Sustainability

Domestic students were more interested than international students in:

- Environmental Law
- Environmental Policy
- Land-based Natural Resource Management
- Marine-based Natural Resource Management

### **Sustainability Question #3: Other Sustainability Areas of Interest**

Respondents were asked to name other sustainability areas that they are “interested or “very interested” in learning more about, not named in Sustainability Question #2. Eighteen percent (n=113) of respondents replied, listing 205 other areas of interest.

The following is a high level list of these other areas. It is a preliminary analysis of responses and comparisons are not provided.

- Indigenous rights and indigenous knowledge
- Sustainable landscaping / agriculture / sustainable food production / urban agriculture
- Waste management / recycling
- Ecological engineering / environmental engineering
- Sustainable consumption / households
- Sustainable product development
- Species management

- Activism, politics and social change
- Sustainability education
- Sustainability and feminism
- Eco-psychology
- Sustainability and human geography / demographics
- Environmental racism
- Environmental practices in tourism / entertainment
- Environmental practices in technology / IT
- Sustainability impacts of war
- Animal welfare
- Environmental journalism
- Soil health
- Environmental history
- Sustainability and culture
- Sustainability and peace education

## Sustainability Question #4: Interest in Pursuing Courses or Degrees in Priority Sustainability Areas

### All respondents

Most respondents would like to pursue specific courses rather than degrees in the priority sustainability areas they want to learn more about (**Table 4.1**). For courses, 69.0% indicated a definite interest (“yes”), and 21.7% expressed potential interest (“maybe”). Only 5.4% of respondents indicated “no” interest in pursuing sustainability courses.

For degree options, there is some interest in pursuing undergraduate minors in sustainability (35.3% “yes” and 29.4% “maybe” versus 18.1% “no”), and less interest in undergraduate majors (26.1% “yes” and 20.0% “maybe” versus 35.7% “no”). Student interest in graduate degree options is more difficult to assess since many respondents selected “don’t know” and “does not apply”. As most respondents are 24 and under (>70%), they may be less likely to know of their interests at the Master and PhD levels.

### Comparison by Student Type

Student responses differed little by Student Type (**Table 4.2**), with the exception of the Undergraduate Minor. Third and 4<sup>th</sup> year students (46.5%) were more interested than 1<sup>st</sup> and 2<sup>nd</sup> year students (33.6%) in pursuing an Undergraduate Minor degree in sustainability.

### Comparison by Faculty

There was consistency among Faculties in the desire to take courses on sustainability (“yes” ranged from 57.1% for Education to 77.9% for Forestry) (**Table 4.3**), with the majority of respondents from all Faculties potentially choosing to pursue sustainability courses (“yes” plus “maybe” ranged from 83.7% for Education to 95.7% for Arts).

However, the desire to pursue undergraduate degree options varied among Faculties (**Table 4.3**). Forestry respondents showed the highest interest in taking an Undergraduate Minor (“yes” = 53%) and Major (“yes”=57%), while Education students were least interested in a Minor (“yes” = 20%), and Commerce students were least interested in a Major (“yes” = 13%). Across all Faculties, students showed more potential interest (“yes” plus “maybe”) in Undergraduate Minors (average = 66.8%, SD = 14.3%; range from 35.7% for Education to 79.4% for Forestry) than in Undergraduate Majors (average = 49.3%, SD = 18.5%; range from 28.6% for Education and Commerce to 80.9% for Forestry).

Responses to graduate degree options in sustainability (MA, MSc, PhD) varied across Faculties. Overall there was more interest in possibly (“yes” plus “maybe”) pursuing a Master of Science (average = 48.1%, SD = 22.1%; range from 21.7% for Commerce to 76.5% for Forestry) than a Master of Arts (average = 35.1%, SD = 12.1%; range from 22.4% for Applied Science to 57.5% for Arts). Respondents from Forestry, Land and Food Systems and Science showed the strongest interest in taking an MSc, while respondents from Arts showed the strongest interest in an MA. Interest in pursuing a PhD generally paralleled Faculty responses for interest in taking an MSc, with many respondents replying “don’t know” or “does not apply”.

#### **Comparison by International versus Domestic**

A comparison of results by international versus domestic reveals similar results for this question, with the exception of the Master of Science degree. International students were more in favour (their top response was yes = 29.1%) of pursuing a Master of Science degree in a sustainability area than domestic students (32.6% indicated “no” as their top response).

There were no obvious gender differences in responses to this question.

### **Sustainability Question #5: Perceived Benefit in Interdisciplinary Classes**

#### **All Respondents**

Nearly two-thirds of respondents (64.9%) agreed that there is a “large added benefit” to taking classes with students from other departments, programs or Faculties (**Table 5.1**). Coupled with those who thought there was a medium added benefit, this number rises to 91.0%, and is in marked contrast to those who thought there would be no added benefit (1.1%) or only a small benefit (6.3%).

#### **Comparison by Student Type**

All student types ranked “large added benefit” as their top response by a large margin (**Table 5.2**). Grad students are most likely to perceive this benefit (87.7%) and 1<sup>st</sup> and 2<sup>nd</sup> year students less likely to perceive a benefit (56.5%).

#### **Comparison by Faculty**

Regardless of their home Faculty, students express consistent agreement that there is a large added benefit in taking classes with students from other disciplines (**Table. 5.3**). Arts, Education and LFS students perceived the largest added benefit (Arts 70.21%, Education 71.43%, and LFS 75.58%), whereas students from Science, Applied Science and Commerce didn't rank this as high (Science 52.87%, Applied Science 53.45%, and Commerce 57.39%).

There were no obvious differences with gender and international versus domestic students.

## Key Findings

The following are the key findings from the Student Sustainability Survey.

A significant majority of students believe that sustainability should be a component of their degree, particularly students from LFS and Forestry Faculties. Of the 26 sustainability areas given in the survey, Clean/Renewable Energy and Energy Efficiency outranked all the responses for the greatest number of "very interested" students (55.7%), followed by Sustainable Transportation (52.28%) and Sustainable Community Development (50.24%). In addition to these three sustainability areas, additional sustainability areas that ranked over 75% of "interested" and "very interested" combined included Water and Air Quality, Sustainable Infrastructure (water, waste, energy), Sustainable Cities and Climate Change.

Students at different stages of their academic career and students from different Faculties showed some variation in their sustainability subject areas of greatest interest.

1<sup>st</sup> and 2<sup>nd</sup> year students and 3<sup>rd</sup> and 4<sup>th</sup> year students showed some similarity in ranking Clean/Renewable Energy and Energy Efficiency and Sustainable Transportation the highest ("very interested"), with Grad students ranking these #7 and #8. Sustainable Community Development was ranked amongst the top 5 high interest areas across all student types. There were 6 common subject areas that received over 40% for "very interested" across all three student types, including: Clean/Renewable Energy and Energy Efficiency, Sustainable Transportation, Sustainable Community Development, Sustainable Infrastructure (water, waste, energy), Sustainable Cities, and Climate Change.

When sustainability areas are analyzed by Faculty, a number of common interest areas are identified. Clean/Renewable Energy and Energy Efficiency was of highest overall interest to all Faculties, particularly Applied Science, which gave this the highest ranking of "very interested" across all Faculties and sustainability areas (70.7%). Sustainable Transportation and Green Building and Design ranked 2<sup>nd</sup> and 3<sup>rd</sup> as having the greatest appeal across all Faculties. Sustainable Community Development, Sustainable Cities and Water and Air Quality have the second highest levels of cross-Faculty interest, with only one Faculty per area not ranking these the highest.

At least 22 “other” sustainability areas were identified by students as being of interest. Responses were not analyzed because of their open-ended nature.

Regarding whether or not students wish to pursue specific courses and/or degrees in sustainability areas, most agreed they would like to pursue specific *courses* rather than degrees. There was higher overall interest in Undergraduate Minors than Majors, and varied interest in Graduate degree options with the MSc degree being the degree of greatest interest.

There was a similarly strong trend in responses to the question about whether or not there was an added benefit to taking classes with students from other departments, programs or Faculties, with nearly two-thirds of respondents agreeing there is a “large added benefit” to integrated classes. Added to those who perceive “medium added benefit”, this number rises to 91.0%, a significant majority. Responses are fairly consistent for student types (exception being that the older the student, the greater the perception of large added benefit), Faculty, gender and international versus domestic students.

## Conclusion

An analysis of the 635 student responses to the sustainability survey reveals the following headline conclusions:

- The majority of students believe that sustainability should be a component of their degree.
- Clean/Renewable Energy and Energy Efficiency ranks as the subject of greatest interest (Grad students slightly less interested; Applied Science most interested of Faculties).
- Sustainable Transportation and Sustainable Community Development rank next highest regardless of student type, Faculty, gender and international versus domestic with some notable exceptions (e.g., Green Building and Design is of high general interest and Grad students are not as interested in Sustainable Transportation).
- For the most part students prefer to take specific *courses* in sustainability rather than pursue *degrees* in sustainability.
- There is a near universal agreement that there is a medium to large added benefit in taking integrated classes with students from other departments, programs or Faculties.

## Appendix 1.

List of Target Faculties for student survey distribution, along with estimated number of students reached.

<b>Target Faculty</b>	<b>Method</b>	<b>Approx. # of Students Reached</b>
Arts	<ul style="list-style-type: none"><li>• Scheduled email to all CASS students</li><li>• Survey link posted on CASS webpage</li></ul>	12,000
Science	<ul style="list-style-type: none"><li>• Scheduled email to all undergraduates</li><li>• Survey link posted on Science webpage</li></ul>	6,500
Applied Science	<ul style="list-style-type: none"><li>• Weekly e-nEUS letter item, reaches all Engineering undergraduates</li></ul>	3,700
Forestry	<ul style="list-style-type: none"><li>• Dedicated email to all undergraduates</li></ul>	509
LFS	<ul style="list-style-type: none"><li>• Dedicated email to all undergraduates</li></ul>	1,100
Education	<ul style="list-style-type: none"><li>• Dedicated email to all undergraduates</li></ul>	819
Sauder	<ul style="list-style-type: none"><li>• Dedicated email to all undergraduates</li></ul>	2,531
<i>Total Estimate:</i>		<i>27,159</i>

## Appendix 2: Student Sustainability Survey

Electronic sustainability survey distributed to UBC undergraduate students in Feb-March 2009.

### Introduction

The purpose of this survey is to understand your sustainability interests so that UBC can improve its current course and program offerings on sustainability.

We want to hear your voice and know what aspects of sustainability are most important to you.

Sustainability is a complex and oft-debated concept. A popular interpretation is that sustainable decision making requires a balanced consideration of ecological, social and economic perspectives.

Your responses are anonymous and confidential. This survey will take about 10 minutes, and please note that all questions marked with an asterix (\*) require an answer. If you have questions or comments, please contact Jean Marcus, Project Manager, Advisory Committee on Academic Programs on Sustainability (email: jean.marcus@ubc.ca).

The survey is jointly conducted by the Working Group on Academic Programs of the President's Advisory Council on Sustainability and the Campus Sustainability Office.

Thank you for participating!

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### Survey

Please tell us about yourself:

1. Please indicate your age:
  - 20 and under
  - 21 – 24
  - 25 – 30
  - over 31
  
2. Please indicate your gender:
  - Male
  - Female
  
3. Where have you lived for most or all of your life?
  - Canada
  - US
  - South America
  - Europe
  - Asia
  - Africa
  - Other:

4. Are you registered at UBC as an international student?
  - Yes
  - No
  
5. What type of student are you?
  - 1<sup>st</sup> year undergraduate
  - 2<sup>nd</sup> year undergraduate
  - 3<sup>rd</sup> year undergraduate
  - 4<sup>th</sup> year undergraduate
  - MA student
  - MSc student
  - PhD student
  - Other:
  
6. What is your home Faculty?
  - Arts
  - Sciences
  - Applied Sciences
  - Forestry
  - Land and Food Systems
  - Education
  - Commerce and Business Administration (Sauder School of Business)
  - College for Interdisciplinary Studies
  - Other:
  
7. What is your major or program of study?
  - If you have not yet decided on a major/program, select "undeclared" and skip to the next question. If your major/program is not listed, select "other" and please specify your major or program:
  
8. If you selected "undeclared", what is your preferred area of study?
  
9. What is your minor? (leave blank if none declared)
  
10. What career path do you hope your education can prepare you for? Select up to three top choices.
  - Health Sciences
  - Business
  - Non-profit
  - Natural Resource Management
  - Academia
  - Government
  - Finance
  - Consulting
  - Education
  - Law

- Engineering
- Other:

**Sustainability question #1**

11. In your opinion, what proportion of your current (or completed) degree should cover aspects of sustainability?

- None (e.g. 0%)
- A little (e.g.10%)
- Some (e.g. 25%)
- Half (e.g. 50%)
- A considerable amount (e.g. 75%)
- Almost all (e.g. 90%)
- All (e.g. 100%)
- Don't know/Not Sure

**Sustainability question #2**

12. PART 1 of 2. This question continues on the next page.

Rank your level of interest in learning more about the following sustainability areas of study. Provide one answer for each row.

- 1 = Not at all interested
- 2 = Not very interested
- 3 = Somewhat interested
- 4 = Interested
- 5 = Very interested
- 6 = No opinion/Don't know

Bioeconomy, Biomaterials and Biorefining	1	2	3	4	5	6
Business, Sustainability and Corporate Responsibility	1	2	3	4	5	6
Clean/Renewable Energy and Energy Efficiency	1	2	3	4	5	6
Climate Change	1	2	3	4	5	6
Conservation, Biodiversity and Ecosystem Services	1	2	3	4	5	6
Ecotoxicology, Pollution and Environmental Health	1	2	3	4	5	6
Environment and International Development	1	2	3	4	5	6
Environmental Economics	1	2	3	4	5	6
Environmental Justice	1	2	3	4	5	6
Environmental Law	1	2	3	4	5	6
Environmental Policy	1	2	3	4	5	6
Environmental Security	1	2	3	4	5	6
Food Security	1	2	3	4	5	6

PART 2 of 2. Continued from previous page.

Global Governance and Sustainability	1	2	3	4	5	6
Globalization and International Trade	1	2	3	4	5	6
Green Building and Design	1	2	3	4	5	6
Human Nutrition, Health and Environment	1	2	3	4	5	6
Land-Based Natural Resources Management	1	2	3	4	5	6
Marine-Based Natural Resources Management	1	2	3	4	5	6
Poverty Alleviation and Development	1	2	3	4	5	6

Spirituality, Links to Science and Sustainability	1	2	3	4	5	6
Sustainable Cities	1	2	3	4	5	6
Sustainable Community Development	1	2	3	4	5	6
Sustainable Infrastructure (water, waste, energy)	1	2	3	4	5	6
Sustainable Transportation	1	2	3	4	5	6
Water and Air Quality	1	2	3	4	5	6

**Sustainability question #3**

13. List any other sustainability areas that you are "interested" or "very interested" in learning more about (that you have not seen so far). If you have no additional comments, leave the text boxes blank.

- A)
- B)
- C)
- D)
- E)

**Sustainability question #4**

14. Would you like to pursue courses or degrees in the sustainability areas that you ranked as "interested" and/or "very interested" in the previous questions? Provide one answer for each row.

	Yes	No	Maybe	Don't Know	Does not apply
Specific Courses					
Undergraduate Minor					
Undergraduate Major					
Master of Arts					
Master of Science					
PhD					
Other: please specify:					

**Sustainability question #5**

15. Many sustainability courses/programs are designed to draw on more than one discipline. In your opinion, is there any benefit in taking classes with students from other departments, programs, or faculties?

- No added benefit
- Small added benefit
- Medium added benefit
- Large added benefit
- No opinion
- Don't know

16. Are there particular courses, sustainability-related or otherwise, that you would like to take that currently do not exist at UBC? If so, please specify one course per line. If not, go to the next question.

- 1.
- 2.
- 3.

17. Are there particular courses, sustainability-related or otherwise, that you wanted to take but you were unable to register in? If so, list one course per box stating the course code if possible (e.g. ENGL 100). If not, skip the next question and click next.

- 1.
- 2.
- 3.

18. Why could you not register in the course(s) listed above? Please select all that apply.

- Course was full
- Was not offered for credit in my discipline
- Don't know

### Appendix 3: Results for Demographic Data

This appendix summarizes descriptive information about all respondents, including a breakdown by **age, gender, country/region, international student status, student type, home Faculty, major/program by Faculty, and desired career path**. For simplicity, where the Answer Options includes “Other (please specify)” the information is not included here, and the breakdown of students by major/program is only listed for the Faculty of Arts. Additional data is available upon request.

1. Please indicate your age:		
Answer Options	Response Frequency	Response Count
20 and under	36.9%	234
21 – 24	35.0%	222
25 – 30	18.9%	120
over 31	9.4%	60

The bulk of the respondents were 24 and under (71.9%), almost three quarters overall, with this amount split almost equally between those 20 and under (36.9%) and 21 – 24 years of age (35%).

2. Please indicate your gender:		
Answer Options	Response Frequency	Response Count
Female	66.3%	421
Male	33.9%	215

Two-thirds of respondents were female, at 66.3%, versus 33.9% male respondents.

3. Where have you lived for most or all of your life?		
Answer Options	Response Frequency	Response Count
Canada	77.5%	492
US	6.1%	39
South America	1.6%	10
Europe	2.5%	16
Asia	8.8%	56
Africa	0.5%	3
Other (please specify)	3.1%	20

Over three-quarters of respondents lived in Canada most of their life (77.5%); 83.6% in North America for most of their life (adding on 6.1% from the US). After Canada, Asia was the next most frequently mentioned, at 8.8%.

4. Are you registered at UBC as an international student?		
Answer Options	Response Frequency	Response Count
Yes	12.4%	79
No	87.6%	556

A modest number of students who responded to the survey (79) are registered as an international student (12.4%). This compares to 22.5% of students who have not lived in Canada most of their life (see question 3 above).

Note that there are 70 respondents (9.1%) who are NOT registered as an international student, but lived most of their life outside of Canada.

5. What type of student are you?		
Answer Options	Response Frequency	Response Count
1st year undergraduate	16.7%	106
2nd year undergraduate	17.0%	108
3rd year undergraduate	19.7%	125
4th year undergraduate	23.0%	146
MA student	5.5%	35
MSc student	1.6%	10
PhD student	4.4%	28
Other (please specify)	12.1%	77

Most of the students completing the survey are 4<sup>th</sup> year undergraduate students (23.0%), compared to 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> year undergraduate students, at 16.7%, 17.0% and 19.7% respectively. This compares to 11.5% registered as MA students, MSc students or PhD students. The total of undergraduate students responding is 76.4%, which is highly correlated to the number of respondents under 24 (71.9%).

6. What is your home Faculty?		
Answer Options	Response Frequency	Response Count
Arts	14.8%	94
Science	13.7%	87
Applied Science	9.1%	58
Forestry	10.7%	68
Land and Food Systems	13.5%	86
Education	15.4%	98
Commerce and Business Administration	18.1%	115
College for Interdisciplinary Studies	2.4%	15
Other (please specify)	2.2%	14

There was great diversity in the home Faculties of the respondents, with most ranging from 9.1% in Applied Sciences to 18.1% in Commerce and Business Administration. Comparatively fewer students indicated the College for Interdisciplinary Studies (2.4%) or “other” (2.2%). This diversity suggests that the results are generally applicable across the range of most home Faculties.

<b>7. What is your major or program of study? (Example only given for Arts)</b>		
<b>Arts</b>	<b>Response Frequency</b>	<b>Response Count</b>
Undeclared	35.1%	33
Geography	12.8%	12
Economics	5.3%	5
History	5.3%	5
Political Science	5.3%	5
Psychology	4.3%	4
Other	3.2%	3
Philosophy	3.2%	3
Art History	2.1%	2
English	2.1%	2
French	2.1%	2
Interdisciplinary Studies	2.1%	2
Sociology	2.1%	2
Anthropology	1.1%	1
Archaeology	1.1%	1
Asian Languages and Culture	1.1%	1
Cognitive Systems	1.1%	1
Computer Science	1.1%	1
Creative Writing	1.1%	1
Film Production	1.1%	1
German	1.1%	1
International Relations	1.1%	1
Latin American Studies	1.1%	1
Linguistics	1.1%	1
Music	1.1%	1
Religion, Literature, and the Arts	1.1%	1
Visual Arts	1.1%	1

Note that this chart (#7) only breaks down responses by the Faculty of Arts. Similar data is available for other Faculty, upon request.

<b>8. What career path do you hope your education can prepare you for? Select up to three top choices.</b>		
<b>Answer Options</b>	<b>Response Frequency</b>	<b>Response Count</b>
Health Sciences	18.0%	114

Business	31.0%	197
<b>Non-profit</b>	<b>32.9%</b>	<b>209</b>
Natural Resource Management	23.5%	149
Academia	17.8%	113
Government	29.0%	184
Finance	7.2%	46
Consulting	30.4%	193
Education	28.8%	183
Law	5.8%	37
Engineering	12.4%	79
Other (please specify)	13.2%	84

Non-profit career paths were most frequently mentioned by survey respondents, at 32.9%, nearly one-third. Other top mentions include business (31%), consulting (30.4%), government (29%), and education (28.8%) (distinct from academia at 17.8%). Respondents were given the opportunity to select up to three choices.